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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,958	03/25/2004	Stefan Bohm	P04,0091	6389
26574	7590	01/07/2008		
SCHIFF HARDIN, LLP PATENT DEPARTMENT 6600 SEARS TOWER CHICAGO, IL 60606-6473			EXAMINER LU, TOM Y	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 01/07/2008	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/808,958

**Applicant(s)**

BOHM ET AL.

**Examiner**

Tom Y. Lu

**Art Unit**

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10, 13 and 14 is/are rejected.
- 7) ☒ Claim(s) 4-9, 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 7/22/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 07/22/2004 has been considered by the examiner.

### ***Claim Rejections - 35 USC § 101***

2. Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claim 13 defines a computer program product embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., “When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized” – Guidelines Annex IV). That is, the scope of the presently claimed a computer program product can range from paper on which the program is written, to a program simply contemplated and memorized by a person. The examiner suggests amending the claim to embody the program on “computer-readable medium” or equivalent in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

***Claim Objections***

3. Claim 2 is objected to because of the following informalities: typographical error found in line 3, "image date." The examiner assumes it means "image data.". Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-3, 10, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Doi et al ("Doi" hereinafter) (U.S. Patent No. 5,790,690).

- a. As per claim 1, Doi discloses a computer-assisted method for detecting diaphragm edges in an image, caused by a diaphragm used to gate radiation for producing the image, said image containing said diaphragm edges and other image edges (see abstract), comprising the steps of: supplying image data representing said image (chest images, column 3, line 4) to a computer (column 7, line 61) together with information describing an inner structure of the diaphragm (landmark information, column 3, line 32); and in the computer, analyzing said image data for detecting all image edges in the image (ribcage boundary, column 3, line 39), and determining said diaphragm images from among the detected image edges using said information (detecting diaphragm edges using landmark information, column 3, lines 38-39).

- b. As per claim 2, Doi discloses wherein said image comprises a plurality of two-dimensional arranged pixels, each having a grey scale value between a minimum value and a maximum value, and wherein said image data represent the respective grey scale values of the pixels (column 7, lines 57-62), and wherein the step of detecting said image edges in said image comprises determining for each pixel, a derivative value from the grey scale value for that pixel and a grey scale of at least one other pixel and determining said image edges using said derivative values (column 7, lines 66-67 and column 8, lines 1-27).
- c. As per claim 3, Doi discloses determining said derivative values as a sum of at least four summands, and forming each summand as a product of said derivative in a derivative direction and a weighting factor, and comprising determining said weighting factor in said computer specific to the derivative (column 12, lines 4-15 and column 20, lines 15-52).
- d. As per claim 10, Doi discloses employing, as said information about the inner structure of the diaphragm, a designation of known angle form between two of said diaphragm edges and comprising, in said computer, detecting said diaphragm edges by detecting groups of image edges which, with one another, form known angle (see figures 9A and 9B, column 13, lines 40-62).
- e. As per claim 13, Doi discloses a computer is used to carry out the method of claim 1, and such computer inherently contains a computer program stored on a computer readable medium, which corresponds to the claimed "a computer program product."

- f. As per claim 14, the computer at column 7, line 61 is the claimed "computer."

*Allowable Subject Matter*

5. Claims 4-9 and 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Sheehan et al, U.S. Patent No. 5,734,739, see figures 3, 9 and 12.
- b. Yanagita et al, U.S. Patent No. 6,415,049, see whole document.

7. **Examiner note:** Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teaching for the art and are applied to the specific limitations within the individual claim, other passages and figures may be applied as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potential teaching all or part of the claimed invention, as well as the context of the a passage as taught by the prior art or disclosed by the examiner.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Y. Lu whose telephone number is (571) 272-7393. The examiner can normally be reached on 8:30AM-5PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571)-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tom Y. Lu/  
Art Unit 2624